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| APPLICATION NO.  | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/519,396   | 07/18/2005  | Takashi Oogawara     | 264030U/S3X PCT     | 2991             |
| 22850  | 7590        | 11/24/2008           |                     |                  |
| OBLON, SPIVAK, MCCLELLAND MAIER & NEUSTADT, P.C.<br>1940 DUKE STREET<br>ALEXANDRIA, VA 22314 |             |                      |                     |                  |
| EXAMINER   |             |                      |                     |                  |
| SORKIN, DAVID L.   |             |                      |                     |                  |
| ART UNIT   |             | PAPER NUMBER         |                     |                  |
| 1797   |             |                      |                     |                  |
| NOTIFICATION DATE  |             | DELIVERY MODE        |                     |                  |
| 11/24/2008   |             | ELECTRONIC           |                     |                  |

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

patentdocket@oblon.com

oblonpat@oblon.com

jgardner@oblon.com

### Office Action Summary

**Application No.**

10/519,396

**Applicant(s)**

OOGAWARA ET AL.

**Examiner**

DAVID L. SORKIN

**Art Unit**

1797

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 15 August 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) 13-16 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-893)  
Paper No(s)/Mail Date 01/05 & 0/06
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

***Election/Restrictions***

1. Applicant's election of Group I in the reply filed on 15 August 2008 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).

***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-6, 8 and 9 are rejected under 35 U.S.C. 102(b) as being anticipated by Cottel (US 3,715,104). Regarding claim 1, Cottell ('104) discloses an apparatus comprising a vessel (3); a vibrator (2,9) disposed in the vessel and having at least one surface with a predetermined area contacting the mixture components; a high-frequency vibration generator (1) connect to the vibrator, for vibrating the vibrator at high frequency in a direction perpendicular to said surface; and a reflector (10) disposed in the vessel, said reflector being arranged with a space from the vibrator at a small distance. Regarding claim 2, the vibrations are ultrasonic (see col. 5, lines 27-30). Regarding claim 3, "the manner or method in which such machine is to be utilized is not germane to the issue of patentability of the machine itself." *In re Casey*, 370 F.2d 576, 152 USPQ 235 (CCPA 1967). Regarding claim 4, the vibration generator may be

piezoelectric or magnetostrictive (see col. 5, lines 5-15). Regarding claim 5, the vibrator has a surface section, and the reflector has a surface second facing the surface section of the vibrator (see Fig. 2), and at least one of these surface sections contains a hard material (see col. 1, lines 40-45). Regarding claim 6, the reflector is detachably attached to the vessel (see Fig. 2). Regarding claim 8, the vessel has an inlet to and an outlet from the space between the vibrator and reflector (see Fig. 2). Regarding claim 9, the vessel has one or more perforations which extend through a center area of the reflector (see Fig. 2).

4. Claims 1-3, 5, 6, 8, 9, 11 and 12 are rejected under 35 U.S.C. 102(b) as being anticipated by Goudy (US 4,259,021). Regarding claim 1, Goudy ('021) discloses an apparatus comprising a vessel (30); a vibrator (62) disposed in the vessel and having at least one surface with a predetermined area contacting the mixture components; a high-frequency vibration generator (23) connect to the vibrator, for vibrating the vibrator at high frequency in a direction perpendicular to said surface; and a reflector (such as 64 or 40 or 41) disposed in the vessel, said reflector being arranged with a space from the vibrator at a small distance. Regarding claim 2, the vibrations are ultrasonic (see col. 4, lines 65-66). Regarding claim 3, "the manner or method in which such machine is to be utilized is not germane to the issue of patentability of the machine itself." *In re Casey*, 370 F.2d 576, 152 USPQ 235 (CCPA 1967). Regarding claim 5, the vibrator has a surface section, and the reflector has a surface second facing the surface section of the vibrator (see Fig. 2), and at least one of these surface sections contains a hard material (see col. 6, lines 10-15). Regarding claim 6, the reflector is detachably attached to the

vessel (see Fig. 2). Regarding claim 8, the vessel has an inlet to and an outlet from the space between the vibrator and reflector (see Figs. 2-7). Regarding claim 9, the vessel has one or more perforations which extend through a center area of the reflector (see Figs. 2-7). Regarding claim 11, a plurality of vibrators, arranged in the vibration direction, facing one another are such that the vibrators adjacent each other function as reflectors (see Fig. 2). Regarding claim 12, the vibrators have channels (42, 56, 65, 66) extending therethrough.

5.

***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Cottell (US 3,715,104). The apparatus of Cottell ('104) was discussed above. A numerical value for the distance between the vibrator and the reflector is not provided by Cottell; however statement such as "spacing...is determined by micrometric thread" and "they are quite close together" (col. 5, lines 46-51) would have suggested that they are 10mm or less apart to one of ordinary skill in the art.

8. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Goudy (US 4,259,021). It would have been obvious to one of ordinary skill in the art to have

made the spacing 10mm or less, to process a small amount of material. See *In re Rose*, 220 F.2d 459, 105 USPQ 237 (CCPA 1955) regarding the obviousness of selecting a size.

9. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Goudy (US 4,259,021) in view of Muller (US 2,615,692). The apparatus of Goudy was discussed above. Cone shaped pits are not disclosed. Muller ('692) teaches providing a vibrator with cone shaped pits (5). It would have been obvious to one of ordinary skill in the art to have provided the vibrator of Goudy with cone shaped pits as taught by Muller ('692) to achieve the benefit of "extremely intense" mixing (see col. 2, lines 25-45).

### ***Conclusion***

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DAVID L. SORKIN whose telephone number is (571)272-1148. The examiner can normally be reached on Mon.-Fri. 7:30AM-4:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David R. Sample can be reached on 571-272-1376. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/DAVID L. SORKIN/  
Primary Examiner, Art Unit 1797